

Technology in Rural Transportation

A recent study documented more than eighty proven, cost-effective, “low-tech” solutions to rural transportation needs, most developed or implemented by local transportation professionals. One of these solutions is outlined below:



Learn all about the simple solutions on the Internet at <http://inform.enterprise.prog.org>

The simple solutions report is available from Hau To at (503) 892-2533, or email: to@crc-corp.com

Dust Mitigation Assessment for Unpaved Roads

Overall goal:

To determine the effectiveness of dust control products that are used to control dust on dirt roads by building a “homemade” dust measuring device.

Technical approach:

In 1995, when the Maricopa County Department of Transportation (MCDOT) in Arizona received 11 bids on a contract for a dust palliative to use on the county’s unpaved roads. The county realized that some sort of performance measure needed to be developed in order to select the most effective product. Commercial dust measuring devices are available but as they are intended to test for environmental regulation compliance, they are expensive and went beyond the county’s needs. Thus, the county designed a low-cost device that could be used for their specific need.

The Dust Measuring Device is used to determine the amount of dust raised by a moving vehicle on a dirt road. The device sits in a pickup bed. A scoop is attached to a vacuum hose, which is affixed to the truck’s rear bumper. The vacuum draws up dust through the scoop and into a filter box. The truck makes “dust runs” before and after dust mitigation products have been applied. After a run, the filter is removed and the dust weighed. Consequent runs are made weekly and then monthly until the product is determined to no longer be effective.

By testing the products before committing to a contract, the county is saving taxpayers the cost of ineffective products.

Current status:

The Maricopa DOT tests all products before awarding contracts for dust mitigation.



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Location / geographic scope:	Maricopa County, Arizona.
Agencies involved:	Maricopa DOT.
Cost information:	Total cost of program for materials and labor was approximately \$4,900.
Key contacts:	Eric Mayer, Materials Testing/Inspection Technician, 602.506.8367.
Have goals been achieved?	Yes.
Solution timeline:	Project is deployed.

